

**STATE OF VERMONT
PUBLIC SERVICE BOARD**

Joint Petition of Vermont Electric Power Company, Inc.,)
(VELCO) Vermont Transco LLC, Green Mountain Power)
Corporation (GMP) and Vermont Electric Cooperative, Inc.)
(VEC) for a Certificate of Public Good pursuant to)
30 V.S.A. § 248(j) authorizing them to upgrade VELCO's)
Tafts Corners substation in Williston, Vermont and to)
Remove VEC's existing substation

Docket No. ____

**PREFILED TESTIMONY OF
HARRY R. ABENDROTH
ON BEHALF OF VERMONT ELECTRIC COOPERTAIVE INC.**

Summary of Testimony

Mr. Abendroth's testimony addresses the need for the Project from Vermont Electric Cooperative, Inc.'s perspective. He also describes the distribution line upgrade which is related to the Project and explains the impacts of that upgrade on the Section 248 criteria. He also describes VEC's plans for retirement of the existing Williston Substation after the proposed Project is completed.

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ON BEHALF OF VERMONT ELECTRIC COOPERTAIVE INC.

Introduction

Q1. Please state your name and address.

A1. My name is Harry R. Abendroth and my business address is 42 Wescom Road, Johnson,
Vermont.

Q2. By whom are you employed and for how long?

A2. I have been an employee of Vermont Electric Cooperative, Inc. (VEC) since September
2001. Prior to that time, I had been employed for 28 years in the electric utility industry,
primarily with the former Atlantic City Electric Company.

Q3. What is your present position and what are your responsibilities with VEC?

A3. I am presently employed as Manager of Regulatory and Planning Engineering. In that

capacity, I am responsible for strategic planning, engineering and regulatory analyses performed internally by VEC, and I serve as project manager on major construction projects.

Q4. What is the purpose of your testimony?

A4. The purpose of my testimony is to address the need criteria (30 V.S.A. § 248 (b) (2)) concerning the proposed Tafts Corners Substation Expansion Project (Project) from VEC's perspective. In addition, I will summarize the related distribution system upgrades that VEC is proposing (although we are not seeking Public Service Board approval for such upgrades), and I will address the impacts of those upgrades on the Section 248 criteria. I will also address VEC's plans to retire our Williston Substation, assuming the proposed Project is approved substantially as requested.

Q5. Have you previously testified before the Vermont Public Service Board (Board)?

A5. Yes I have. I have provided testimony before the Board in many dockets, mostly related to various Section 248 projects. I also provided testimony in Docket No. 6839, which addressed the initial construction of the Tafts Corners Substation.

Q6. What is the need for the Project, from VEC's perspective?

A6. From VEC's perspective, the Project is essentially a replacement for our existing Williston Substation.

Q7. Please describe the existing VEC Williston Substation.

A7. The existing Williston Substation is located near the intersection of Route 2A and Old Creamery Road in the Town of Williston. It was placed in service in 1969, and serves VEC's consumer-members in Williston, St. George and Shelburne. The substation has a nameplate rating of 5 MVA. Electric energy is delivered to this substation via a VEC 34.5 kV transmission line extending from the LeClair Switch to the substation site. At the LeClair Switch, VEC connects to a jointly-owned Green Mountain Power Corporation/VEC 34.5 kV line that originates at the existing Tafts Corners Substation.

Q8. Why is the Project needed now?

A8. The existing Williston Substation has reached the end of its useful life, and must be rebuilt or replaced with a new substation. The nameplate capacity of the existing substation will be exceeded by 2011. The existing substation site is very congested, does not meet present-day National Electric Safety Code requirements for clearances to live parts, and does not meet present-day Williston zoning requirements. Maintenance of critical substation components cannot be performed without service interruptions. Due to the small piece of property on which the substation is located, reconstruction of the existing substation at the same location is not a viable option. If approved as proposed, the Project eliminates the need for VEC to construct and operate a separate substation in the Town of Williston.

Q9. What is VEC's share of the Project capacity?

A9. VEC's share of the Project capacity will be 25% of the transformer output. Based on the transformer maximum continuous nameplate rating of 41.7 MVA, VEC's share of the capacity will be 10.42 MVA.

Q10. Why is the expansion of Tafts Corners Substation the preferred option?

A10. Expansion of the existing Tafts Corners Substation is the preferred option because it eliminates the need for VEC to construct a separate new substation in the Town of Williston. In addition, two-thirds of the load served by the existing Williston Substation is located within one-half mile of the Project. This makes the Project site the ideal location for a replacement of the existing substation, because it is located close to a large portion of the load that it serves.

Q11. What are the alternatives for serving existing and future VEC loads in this area?

A11. Since the primary reason for VEC's participation in the Project is the replacement of an existing substation that is at the end of its useful life, there is no viable alternative to replacing the capacity of the substation to be retired. Energy efficiency, customer-owned generation, etc., will not eliminate the need to replace the function of the existing Williston Substation.

Q12. Is the Project consistent with VEC's Integrated Resource Plan?

A12. VEC's most recent Integrated Resource Plan (IRP) was filed in January 2004 and approved by the PSB in Docket 7049. VEC's plans to participate in the Project and possibly retire our present Williston Substation are noted on Page 9-10 of the IRP.

Q13. Please describe the distribution system upgrades that are related to the Project.

A13. I will describe these upgrades below. As an initial matter, I want to state that VEC is not seeking PSB approval for these upgrades as they are not transmission facilities and hence not subject to Section 248. I am describing the distribution upgrades and their impact on the Section 248 criteria based on the Board's ruling in Docket No. 7201, which requires Board review of distribution upgrades related to a Section 248 project if they have the potential for any significant adverse impacts on the Section 248 criteria.

In order to connect the Project to our distribution system, VEC will construct two (2) new three-phase distribution lines between the Tafts Corners Substation control house and the end of our existing overhead distribution line at Hurricane Lane in Williston. These new circuits will utilize a mix of underground and overhead construction. The underground construction will occur inside the fence of the existing Tafts Corners Substation. The underground lines will transition to overhead construction at a steel structure located inside the existing substation. The new lines will cross Interstate 89 (I-89) on existing double-pole structures, one on each side of the highway. Between the southbound side of I-89 and Hurricane Lane, the new lines will be constructed within the existing VELCO right-of-way. Both circuits will be placed on a crossarm to be added to the existing 34.5 kV transmission structures that were constructed with provisions for future distribution line construction. VEC will install a tie-switch at the end of the new lines to facilitate breaker maintenance without interrupting service to our consumer-members. A simplified drawing of VEC's distribution system improvements related to the project is provided as Exhibit VELCO-Mallory-14 (Sheet L-3). An arrangement drawing of the steel transition structure is provided as Exhibit VELCO-Mallory-2.

In order to provide safe working conditions for the VELCO transmission line structures supporting the existing 34.5 kV line and VEC's proposed distribution circuits, VEC will install provisions for connection of a mobile substation in the vicinity of the LeClair Switch. A mobile substation will be installed at this location when VELCO must perform maintenance on its transmission line structures. This work will be performed after VEC's Williston Substation is removed from service.

Q14. Please describe the aesthetic impacts of the distribution system crossing of Interstate 89.

A14. This issue is addressed in the Aesthetic Evaluation Report (Exhibit VELCO-Mallory-14).

As an initial matter, I will note that in Docket No. 6839, the Board found no undue adverse impact related to the construction of a 34.5 kV line across I-89. In that docket, the Joint Petitioners described their intent to add one or more distribution circuits to the transmission line to serve VEC's future needs, and no one raised any concerns as to the aesthetic impacts of those additional circuits.

As noted in the Aesthetic Evaluation Report, the most likely visible change will be the addition of a cross arm to the existing 34.5 kV H-frame structure south of the substation. This will be a small incremental change that cannot be visually mitigated. The addition of a proposed cross arm does not create an undue adverse aesthetic impact because it is in context with the function and appearance of the substation.

Q15. Please describe the impacts on the environmental criteria of Section 248 of the distribution upgrade.

A15. The distribution upgrade will not cause an undue adverse impact on the natural environment, because it involves limited construction-type work within existing rights of way. Earth disturbance outside the Tafts Corners Substation will be limited to the placement of new poles where needed and traversing the right-of-way to access existing poles for line construction. The underground cable installation within the Tafts Corners Substation fence will utilize some of conduits installed during initial construction. Earth disturbance inside the substation fence will be limited to installing new conduit between an existing vault and the steel transition structure.

Q16. Other than the aesthetics and environmental criteria of Section 248, does the distribution upgrade have the potential for any adverse impacts on any of the remaining Section 248 criteria?

A16. There will be a limited impact on traffic on I-89 when the distribution line is installed. As Green Mountain Power Corporation did on our behalf when the 34.5 kV line was installed over the highway, VEC will seek a road crossing permit from the Agency of Transportation. This impact will be temporary and for a limited period of time.

Aside from that, I have reviewed the remaining Section 248 criteria and can identify no potential for adverse impacts by the distribution upgrade. It is an enhancement of the VEC system in the Williston area and will improve the reliability of our service to customers in the area.

Q17. Please describe VEC's plans for its Williston Substation.

A17. After the Project has been completed, energized and observed for satisfactory operation of the new transformer,¹ VEC will de-energize its existing Williston Substation. VEC will retain a qualified environmental consultant to develop a detailed decommissioning plan. After the substation is de-energized, the environmental consultant will take any necessary soil samples at the substation site.

VEC plans to remove all substation components that do not require earth disturbance as soon as the substation is deenergized. Removed equipment will be inspected and returned to inventory or disposed of in an environmentally acceptable manner.

Upon receipt of the environmental consultant's recommendations, the overhead structures, concrete foundations and fence will be removed. Any soil remediation that may be required would then be performed. After demolition activities are completed, the site will be graded to blend in with the surrounding properties. VEC will retain the site for access to a communications tower adjacent to the substation. Based on our recent experience with decommissioning a substation in the Richmond area, VEC anticipates that all removal activity would be completed within one year of the Project being placed in service.

Q18. Does this conclude your testimony?

A18. Yes.

¹ VEC believes that 30 days would be the minimum time period to ensure satisfactory operation.